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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,001	06/21/2001	Takashi Shiizaki	1466.1039	3545

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EXAMINER

WU, XIAO MIN

ART UNIT

PAPER NUMBER

2674

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,001

Applicant(s)

SHIIZAKI ET AL.

Examiner

XIAO M. WU

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,4-9 and 12 is/are allowed.
- 6) ☒ Claim(s) 1,3,10 and 11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 10 is rejected under 35 U.S.C. 102(e) as being anticipated by Hirakawa et al.

(Pub. No. US 2002/0039086)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

As to claim 10, Hirakawa discloses a driving method of an AC type plasma display panel in which first display electrodes (e.g. Z1, Z3, Z5..., Fig. 5) and second display electrodes (Z2, Z4, Z6, ..., Fig. 5) are arranged so as to form surface discharge gaps (31, Fig. 3) for rows of a matrix display and so that neighboring two rows share one electrode for display (page 3, [0050]), the method comprising the steps of: arranging terminals for supplying electricity to the first and the second display electrodes at one of a display screen (Fig. 5); and generating a display

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discharge by applying a sustaining voltage pulse (Ps, Fig. 5) to the first display electrodes and the second display electrodes alternately (page 4, [0060]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shino et al. (US Patent No. 6,320,326) in view of Ueoka et al. US Patent No. 6,342,873).

As to claims 1, 3 and 11, Figs. 14 and 15 of Shino discloses a driving method of an AC type plasma display panel in which first display electrodes (e.g. SCN1, SCN2..., Fig. 14) and second display electrodes (e.g. SUS1, SUS2..., Fig. 14) are arranged so as to form surface discharge gaps for rows of a matrix display, and the position relationship between the first and the second display electrodes forming a surface discharge gap in the row arrangement direction is opposite between neighboring two rows (e.g. Fig. 15 shows that the current flows in opposite

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direction), the method comprising the steps of: setting plural electrode unit pairs (e.g. SCN1, SCN2) about the first display electrodes by making a unit of each of electrode arrays including the first display electrode neighboring only the second display electrodes (e.g. SUS1) arranged without including a surface discharge gap and by dividing the first display electrodes by two units; setting plural electrode unit pairs (e.g. SUS1, SUS2) about the second display electrodes by making a unit of each of electrode arrays including the second display electrode neighboring only the first display electrode (e.g. SCN2) and the plural second display electrodes arranged without including a surface discharge gap and by dividing the second display electrodes by two units; generating a display discharge by changing potentials of the first and the second display electrodes so that a potentials change has a complementary relationship between the first display electrodes units as well as between the second display electrode units of the electrode unit pair, and that a sustaining voltage is applied to the surface discharge gap at the ratio of one row per K ($k \geq 2$, e.g. 50%) rows, and that the surface discharge gaps to which the sustaining voltage is applied are changed sequentially. For example, Fig. 5 shows that the sustaining voltage is applied to the surface discharge at the ratio of one row per two rows (e.g. 50%).

It is noted that Shino discloses that both scanning and sustain drivers are located in the same side of the display but does not specifically disclose that the terminals for supplying electricity to the first and the second display electrodes are divided into both sides of display screen. However, dividing the scanning driver and the sustain driver in both sides of the display screen is well known in the art such as taught by Ueoka (see Fig. 4). It would have been obvious to one of ordinary skill in the art to have modified Shino with the features of dividing drivers as taught by Ueoka because one driver on each side of the display can balance the display.

Allowable Subject Matter

6. Claims 2, 4-9 and 12 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

None of prior art teaches, along or in combination, the limitation of generating a display discharge by applying a rectangular voltage pulse train having a constant period to the first display electrode sequentially by one group while shifting the rectangular voltage pulse train by the time corresponding to a pulse width multiplied by $2/K$, and by applying another rectangular voltage pulse train similar to the rectangular voltage pulse train to the second display electrodes so that the shift between neighboring first display electrodes becomes the time corresponding to a pulse width multiplied by $1/K$ " as required in independent claims 2, 4, 7 and 12.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The US Patents 6,144,349, 6,344,841, 6,380,912, 6,489,722, 6,504,519, Pub No. US 2001/0024092 are cited to teach a plasma display device.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiao Wu whose telephone number is (703) 305-4721.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

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(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington.
VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

xw

June 15, 2003


XIAO WU
PRIMARY EXAMINER
ART UNIT 2674